Strength-giving Drugs. See page 146.
Children in Summer. See page 153.

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HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &C.

VOL. XIII.—No. 322. FRIDAY, JUNE 7, 1889. [PRICE TWOPENCE.

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, JUNE* 7, 1889.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

THE following remarks, culled from the pages of the *Lancet*, will prove of interest in connection with the recent agitation concerning vaccination, and the appointment of a Royal Commission dealing with that topic. Dr. J. M. Braund, Public Vaccinator for the North District of the Stratton Union, Cornwall, writes as follows:—"In these days when there is a great tendency to do away with, or, at any rate, to undervalue the marvellous protective power of vaccination over that dread disease, small-pox, I deem it the duty of any person who has proved by facts the efficiency of the vaccine virus not to let the light thrown upon him be hidden under a bushel, but to come forward and state facts which have happened in his experience as to the thorough protective power of vaccination. I may state that some time since I was summoned to see a patient who had recently come from Wales to visit some friends who resided in a small village in the county of Cornwall. Two or three days after his arrival the disease proved to be variola of a confluent type. There were about eight or ten children who ran in and out of the house before the disease partook of its true character.

Now, the most remarkable feature of this case was that, although these children had really been exposed to these germs, no child sickened for small-pox, all, except one, having been successfully vaccinated, and this one, an infant two months old, a healthy child, took the disease and died. Surely this is an indisputable fact which will take much more weighty arguments to upset than the anti-vaccinationists have hitherto expressed. I also must speak most highly of the importance of using calf lymph in preference to human, however carefully kept, as I firmly believe the strength of the virus becomes attenuated and perhaps deteriorated by repeated periodical vaccination. During my last public vaccination within this month I have found the calf lymph very successful, having done forty-five cases, and all, with the exception of one case, in which one point failed, resulted in four perfect vesicles."

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DR. CAIGER, of Hampstead, London, N.W., writes:—"In view of the popular interest which is again becoming aroused on the question of vaccination and the fact that another Royal Commission is imminent, the following additional instance of its efficacy is, I think, worthy of record:—On Oct. 17th, 1887, a child was admitted into the Northern Fever Hospital in the peeling stage of scarlatina. On the sixth day after admission she showed signs of severe illness, followed on the third day by an eruption of semi-confluent small-pox. She was at once isolated, and on the morrow transferred to the small-pox hospital at Deptford. Steps were at once taken to vaccinate all patients who might, either directly or indirectly, have been exposed to the contagion. They numbered 162. With the exception of an assistant nurse, who was let off on her statement that she had been vaccinated thirteen months previously at the Homerton Hospital and had had a bad arm, all the staff numbering 110, who were not marked by a previous attack of small-pox, or were unable to show satisfactory marks of the operation performed within the previous year, were revaccinated. Only one person took small-pox, the assistant nurse referred to.

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ON the night of the twelfth day following the child's removal she was seized with rigors, intense backache, and vomiting. Her temperature rose to 105 degs. the same night, followed by the eruption on the third day. The case ran the usual course, and was typical of modified variola. No other case occurred. Now, without claiming too much for vaccination in this instance, by allowing a wide margin for possible fallacies, such as the

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varying degree in which different patients and members of the staff were necessarily exposed to the contagion, possible errors in some of their statements as to the date of their last vaccination, the admission of some cause other than sufficient previous protection, to account for those cases in which the revaccination failed to take, the inference to an unbiassed mind cannot fail to be striking. The case in point is merely another illustration of the lesson which is constantly being derived from the experience of the various small-pox hospitals. But the constantly accumulating evidence on the subject may unfortunately be expected to make about as much impression on a mind pregnant with Utopian notions of the 'liberty of the subject' as the verdict of a dozen Royal Commissions."

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DR. HOPKIRK, speaking of small-pox in relation to vaccination, says that statistics have established the fact that in the previous century one-tenth of mankind died from small-pox, and another tenth was permanently injured by that disease. Since the introduction of vaccination, the mortality from small-pox has been reduced to a minimum. Varioloid is nowadays much more frequent, and even variola runs a milder course. From varioloid alone healthy adults hardly ever die. The danger of the transfer of syphilis, or other diseases, by vaccination may be reduced to such a minimum that the benefits of vaccination infinitely outweigh any possible injurious effects. Of 2,800,000 vaccinations performed in Germany in 1883, not a single case of transmitted syphilis, or other illness, has been observed. Since 1875, when compulsory vaccination was enforced, not one single German soldier had died of small-pox, but the mortality from that disease has remained very high both in the French and Austrian armies.

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IN 1886, the small-pox death-rate per 100,000 was, in Berlin, 0·07; in Hamburg, 3·58; in Munich, 0·75; in Dresden, 0·0; in Breslau, 0·0; in London, 0·6; in Vienna, 26·15; in St. Petersburg, 15·30; in Prague, 55·49; in Buda Pesth, 368·7; in Marseilles, 543·3; in the German army, 0·0; in the Austrian and French armies, 7·9 each: total small-pox mortality in Germany, 155; in Marseilles, 2,051. It being thus an incontrovertible fact that in Germany, the only thoroughly vaccinated country in the world, small-pox has ceased to be a scourge, need one be surprised that the opposition to compulsory vaccination in that highly-educated land is as minimal as the mortality from small-pox.

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THERE is said to be a barber's sign near the Palais Royal, Paris, bearing the following legend in the vernacular:—"Callileucocapillaire water which colours the hair white. For the use of young physicians and magistrates.' If this story is not true, it is at least "well imagined" as our French neighbours would say.

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MESSRS. HOWARD & Co., of Great Marlborough-street, London, W., have just issued a waltz entitled "The Beecham Waltz," by May Ostlere. This is a tuneful composition, and one likely to become popular. It will, doubtless, serve also to further advance the renown of Mr. Beecham's world-famed remedies, regarding whose excellence and safety as household medicines there is but one opinion—that of confidence and praise.

Original Essays

"Life is not to live, but to be well."—*Martial.*

STRENGTH-GIVING DRUGS.

By M.D.

WHILE it would be absurd to consider that strength and endurance can be gained from or by the use of drugs alone, without any reference to the body and its powers and health, it is, nevertheless, a matter of fact, that certain substances known to medicine, and used in pharmacy, are calculated to act as invigorators of the system at large. Every tonic may be regarded as in some degree representing a strength-giving drug. It braces up the body, and in this respect, by imparting "tone" to the nervous system, renders exertion more readily undertaken, and work more easily performed. A course of iron, by supplying the red blood-corpuscles with their characteristic mineral, and by thus promoting the free carriage of oxygen to all parts of the body, and to all the tissues, converts a languid, flaccid, and pale-faced patient, indisposed for exertion, into a healthy subject. A holiday by the sea, or amid fresh country air, may and does produce precisely the same effect.

So far, then, many drugs which tone up the system, ranging from iron and strychnine to arsenic, may be legitimately regarded as indirect producers of strength. They invigorate our bodies, when we are low in tone, by their specific effects upon the nervous system and the blood. They remove the causes to which languor and weakness are due, and in this fashion clearly act as strength-giving remedies.

But there also exist substances for which it is more especially claimed that they promote strength, and render the body capable of sustaining severe or unwonted muscular effort. These two effects must, however, be regarded as somewhat distinct in character. For it is clear that a substance which actually braces up the system, and favours, by its stimulant effects, the work of the muscles, must differ materially in action from one which, by its husbanding the powers of the body, enables the bodily force to be more judiciously expended, as it were, than is the case in ordinary life. It may be that the boundary-line between the two classes of substances just noted is often overstepped; but it is at the same time tolerably certain that drugs commonly regarded as "stimulants" in a collective sense, differ widely in their manner of action, as well as in their effects on the frame.

Leaving theoretical considerations out of sight as, in the present state of our knowledge, somewhat unprofitable for discussion, we may very briefly study the leading features of the substances most familiar as strength-givers. Primarily, alcohol has undoubtedly a power of stimulating the nervous system, and through this power of aiding the work of the muscles. But a most important qualification must be taken into account in dealing with alcohol in this sense. This agent, if given in sufficient dose to produce marked stimulation of body, exhibits an equally decided tendency to injurious reaction. It is with alcohol as if the physical powers were rapidly and quickly "wound up;" only, however, rapidly and quickly to "run down." This is only a too familiar feature in alcoholic excitation. The brilliant wit and severe physical exertion which are the outcome of alcoholic stimulation, are succeeded by the depression and languor which characterize the subject who has unwisely relied upon this agent. Like his own champagne, his spirits and powers have been of

evanescent character, and the rosy tint of the evening is followed by the dull depressing greyness of the new day. Dietetically used, that is carefully, and in certified quantity with food, it is probable alcohol possesses a power of strength-giving in many cases, not from any special invigorating qualities, but from its assisting the assimilation of diet. Thus, at the best, its strength-giving properties may be regarded as only of indirect nature. It is too dangerous a substance to be ranked with drugs which give or impart a power of physical endurance; and it certainly has no qualities of its own which entitle us to classify it among invigorating agencies pure and simple.

Certain substances ordinarily classified as foods appear to be more legitimately regarded as stimulants, and, in this light, deserve a word in relation to their powers of imparting energy to the body. For instance, it is safe to say that ordinary extract of meat and beef tea, as commonly made, are stimulants and not nutritives. They impart tone to muscle and nerve, but they do not materially contribute to the maintenance of the tissues. They may be regarded as supplying the human engine with a readily used form of fuel which is easily dissipated in the work of the machine. Physiological chemistry has shown that a substance called *creatine* is present in only two of the body's tissues, namely, nerve and muscle; while another substance called *hypoxanthine* (or *sarcine*) is also constantly present in muscle, but is also found in the blood, in many of the glands, and in the marrow of bones. These substances are obtained in ordinary beef extract and beef tea, and they appear to possess stimulating effects, as already noted. Dr. Druitt long ago spoke of the exhilarating effect produced by a liquid essence of beef which he had prepared. He recommended it, indeed, as a substitute for brandy; and ordinary extracts of beef have been shown to possess like properties, due doubtless to the presence of the substances above detailed. The action of beef tea is probably exerted primarily on the nervous system, but it is also possible that some direct assimilation of its elements takes place in the muscles, which, of course, are directly concerned in the work of the body.

Familiar to every one, of course, are the stimulant powers of tea and coffee. Here, again, we find ourselves facing the consideration of substances which can scarcely be said to possess direct strength-giving properties. They act as stimulants, and it is only through this action that they can at all be regarded as invigorators. They certainly do not supply the body with actual material on which energy can be produced and work done. They owe their properties to alkaloids called *theine* and *caffein*. Both are found in tea. Coffee contains caffein, which is also found in *guarana*, also known as "Brazilian Cocoa." This is a dried paste made from the powdered seeds of a Brazilian plant (*Paullinia sorbulis*). The *theobromine*, which is the active principle of cocoa, is allied to caffein; cocoa, however, as our readers are aware, being a true food and possessing nutritive qualities in addition to the stimulant properties which it evinces in common with tea and coffee.

We know a good deal experimentally regarding the properties of tea and coffee. The caffein is taken into the blood unchanged, and acts directly upon brain and spinal cord. The brain is stimulated, its functions are readily exercised, and langour disappears. Experiment shows that muscular exertion also becomes more readily executed; but the heart, which is at first accelerated, slows down, and of the blood-pressure the same holds true. The tissue-changes are increased at first, although it does not appear to be thoroughly settled, whether the processes of waste are lessened or not by the use of tea and coffee. One opinion, strongly expressed, is that the use of tea and coffee checks and limits the bodily waste. If this be the case, we may understand the fashion in which these substances (along with cocoa viewed as a food and stimulant) have come to be ranked as strength-giving substances. If the substance known as "Kola-nut" which forms the fruit of a tree (*Sterculia acuminata*) is to be regarded as a strength-giver, we can only consider it to be so in the same sense in which tea and coffee are classified with this class of substances—that is, indirectly and feebly at the best. Kola-nut, as far as I have heard, has been most vaunted as a cure for drunkenness, and it is believed to effect its cure by giving staying powers to the stomach, and by thus enabling the drunkard to resist the craving for his liquor.

Perhaps of all substances which of late years have attained notoriety and fame as strength-givers Coca may be said to hold the first place. Its high rank is doubtless the result of experiment and investigation which seem to confirm the idea that, unlike the other substances we have been considering, Coca actually imparts to the body a definite power of endurance. The Coca plant (*Erythroxylon Coca*) is not to be confused with the cocoa plant. It is from the Coca plant that the alkaloid cocaine now so much used to abolish pain locally, is obtained. The plant is a native of South America, and it is the leaves which are used for the preparation of its alkaloid.

Sir Robert Christison, M.D., used to tell his class in Edinburgh University, many years ago, of the habit in vogue among the South American Indians of chewing the leaves of the Coca plant, by way of fitting them for undertaking long journeys, and for undergoing great exertion in the absence of food. These Indians can undergo fatigue for days in the absence of food if provided with Coca; so that no doubt can be entertained that in this substance we have at last found a strength-giving drug, and one which husbands for us our powers of physical endurance.

Sir R. Christison's remarks in his experiments with Coca may be quoted here. "My first trials," he says in a paper read before the Royal Botanical Society of Edinburgh, "were made in 1870, when I was not aware that any one else in Europe had experimented with the Coca Leaf. . . . Two of my students quite out of the habit of bodily exercise for five months, tired themselves one day in April with a walk of sixteen miles. They reached home at the dinner hour, very hungry, having taken no food since a 9 o'clock breakfast. They refrained, however, from taking food, but I gave them an infusion of two drachms of Coca made with the addition of five grains carbonate of soda, to imitate the Peruvian method of chewing the leaves along with a very small quantity of lime or plant ashes. Presently hunger left them entirely, all sense of fatigue vanished, and they went out again, and promenaded Princes-street (Edinburgh) for a whole hour with ease and pleasure. On returning home, hunger revived with intensity, and they made an excellent dinner. They felt alert all the evening, slept soundly all night, and next morning awoke active and refreshed. The next experiment was made with ten of the students under conditions precisely similar to those observed before. After the unusual fatigue and the doses of Coca, all found their hunger cease, and neither appetite nor digestion was afterwards impaired. Four experienced complete relief from fatigue, one of these had walked thirty miles that day without food or any other refreshment. The

remaining six felt decided relief from fatigue. The specimen of Coca used was obviously of lower quality than my previous sample. I therefore determined to make some personal trials with the scanty remains of my best specimen. In the beginning of May I walked, under a day temperature of 58 degs., a distance of fifteen miles, in four stages, with half an hour's interval, at a four-mile pace, without food or drink after breakfasting at 8.30. Four days later, with precisely the same dietary, I walked sixteen miles in three stages of four, six, and six miles, with one rest of half an hour and a second of an hour and a half. During the last forty-five minutes of the second rest I chewed thoroughly eighty grains of my best specimen of Coca, reserving forty grains for the last stage. I felt as effectually tired out on this last stage as I ever remember to have been in all my life. But by the time I reached home it was all over, the fatigue had completely left me. I felt lighter at the end of the journey than when I began, and set off running upstairs two steps at a time."

Medically regarded, Coca raises the temperature, quickens the pulse, and renders the breathing more frequent. That it lessens tissue-waste seems to be a fair inference from the fact that the amount of urea (given off in the urine) is diminished under its use. Coca will not prolong the life of animals which are dying of starvation; a fact, while it teaches us that Coca is not a food, tells in favour of its possessing a well-defined and specific action in checking waste and in imparting vigour and energy to the body.

Coca is used in the form of the leaf, which may be chewed; but in medicine and for ordinary use the fluid extract should be employed, and this last can be added to a red wine, and may thus be agreeably taken. We may add that the French Hygienic Company, of Conduit-street, London, W., manufacture a most convenient and elegant Coca Elixir, which can be added to wine, or other medium, in doses of from fifteen to twenty drops, while the other Coca preparations of this company merit the attention of those who may desire to try this drug as a strength-giver and tonic combined,

Those who regard the phosphates of various substances in the light of strength-givers may be reminded that they can only be so regarded in the light of their supplying needful constituents to the body. In this sense, the phosphates are to be ranked with the fats, or with the starches and sugars. Like fat, the phosphates are certainly intimately connected with the nervous system, its composition and its work; but it would be obviously absurd to rank them specially as strength-givers, useful and necessary as they are as tonics in many debilitated states of the body.

Summing up our study of strength-giving drugs, we note first of all that it is important to distinguish mere tonics from actual "strength-givers;" and that secondly it is equally important for clearness of thought to distinguish that in tea and coffee, for example, we find substances which it would be a distortion of fact to term by the name just quoted. They act not so much positively, but negatively, as it were, by limiting waste as well as by temporarily stimulating the nervous system.

Lastly, we have seen that Coca is perhaps the only substance known to us at the present time which can definitely claim to possess "strength-giving" powers. Its claim to this distinction rests on clear evidence; and so far it remains the sole representative of a class of substances regarding which much nonsense has been written, and concerning which many fallacies even now exist.

THE SCIENCE OF GHOST-SEEING.

By Dr. Andrew Wilson.

THIRD AND LAST PAPER.

Turning now to Dr. Tuke's views regarding spectral illusions, we find him remarking that the case of Mrs. A., observed by Brewster, has become historical, and has reference to the third question (that regarding the test by pressure on the eyeball, causing double vision). She had laboured under hallucinations of hearing when he met her, and he thought it well to anticipate the occurrence of hallucinations of sight, or as he terms them, "spectral illusions," so as to put her on her guard against taking them for realities. Now the test which he gave her was this. He told her "she might distinguish a genuine ghost existing externally, and seen as an external object, from one created by the mind, by merely pressing one eye (or straining them both) so as to see objects double; for in this case, the external object or (supposed) apparition would invariably be doubled, while the impression on the retina created by the mind would remain single.

"On the fourth question (regarding the retina of the eye being involved in 'ghost-seeing'), Huxley speaks almost as strongly as Brewster," says Dr. Tuke, "when he is referring to the case of Mrs. A. and the spectral cat which she saw. Huxley says, 'There can be no doubt that exactly those parts of her retina which would have been affected by the image of a cat, and those parts of her auditory organs which would have been set vibrating by her husband's voice, or the portions of the sensorium with which those organs of sense are connected, were thrown into a corresponding state of activity by some internal cause.' It is true that there is a saving clause in regard to the sensorium, but he evidently does not dissent from Brewster. As is well known, Mr. Huxley can speak from personal experience, which he has thus recorded. 'I know not,' he says, 'if other persons are similarly troubled; but in reading books written by persons with whom I am acquainted, I am sometimes tormented by hearing the words pronounced in the exact way in which these persons would utter them, any trick or peculiarity of voice or gesture being also very accurately reproduced. And I suppose every one must have been startled, at times, by the extreme distinctness with which his thoughts have embodied themselves in apparent voices.'"

So far, then, Dr. Tuke has started clearly the difficulties which environ the subject, and also the apparently plain method in which these difficulties may be resolved by the test of Brewster, with reference to the reality or falsity of what are apparently external objects. The point at issue—and it is one of importance—is whether or not, in the healthy recalling of sensations previously perceived, and equally in the opposite case of illusions or hallucinations, the sensation completely travels back from brain to eye, or ear, or other sense organ, or merely exercises its power of reviving itself from the brain alone. To make this point clear, we know that any object, say a book, we have seen, is so appreciated by the brain, because the image has been fixed on the retina of the eye, has been transmitted to the seeing-centres in the brain, and has been finally stored up as an idea in impression in the intellectual centres of the brain. When the image of the book is reproduced by memory, or as a spectral illusion, the point at issue is formulated in the questions —Does the image retrace its steps as it were, and is it only figured and realized as a memory when it has come back to the retina from the brain? Or is the recalling and reproduction of the image a matter which takes

place in the brain alone, and which, therefore, does not necessarily, or at all, involve the eye by which it was originally received? Sir David Brewster assumed that the first of these explanations was correct, while Esquirol may be quoted as exemplifying the latter opinion.

Some of Dr. Tuke's cases are both instructive and interesting in view of the application of tests for the reality of the illusions or subjective sensations. Thus he gives the case of a young man, an inmate of Bethlehem Hospital (the "Bedlam" of olden days), who suffered from a fixed hallucination of sight. "He has for a long time," says Dr. Tuke, "seen the figure of a man which he describes with great clearness, who is dressed in a blue coat, stands upon some scaffolding, having his left arm behind his back, while the right beckons the patient to him. Although he never speaks, the patient feels impelled to go in the direction the figure indicates by his hand, and this actually led the patient on one occasion to wander about till he was taken up by the police as a wandering lunatic, and it was on the same day I examined and certified him.

"As this youth was quite willing to answer questions or try any experiment, a better case could not have presented itself, for trying the effect of altering the axes of the two eyes by pressing on one of them while the visual hallucination was distinctly in sight. Having first tested him with a picture hanging on the wall opposite, I found that under these conditions he at once said he saw two pictures instead of one. I got him to look steadily at the man in blue on the scaffolding, and, when he saw him before him as clearly as the picture on the wall, I pressed one eye in the same way as I had done before. Had he said he saw double, his reply would not have been conclusive; but as he said the figure remained single, I have no doubt that this was so, and that his case may be taken to show, so far as one case can do so, that subjective visual sensations are not doubled by interfering with the axis of vision. I repeated the experiment subsequently, with the same result. The hallucination became gradually fainter and fainter, and he ultimately recovered. It was interesting to watch the fading away of the image. He had ceased to believe in its reality long before it vanished. Here the image (1) was projected, (2) was not doubled by pressure. I have also no doubt, but this was more difficult to prove, it (3) followed the movements of the eye, and (4) was obscured by external objects."

A medical man, Dr. L., has made a special study of the visual illusions of which he himself is the subject. The following account is given by Dr. Tuke of Dr. L.'s investigations:—"He had for some years occasionally seen images of persons and things which he had been attentively regarding, but he took little notice of the circumstance, and they speedily disappeared from the field of vision. On the 3rd of December, 1862, however, a much more decided visualization occurred. He was then in the army, and stationed on the west shore of Maryland. A military man, his daughter, a naval officer, and Dr. L. were seated in the verandah of a house which stood within a stone's throw of Chesapeake Bay. The girl sat on the second of the steps leading down from the verandah. He himself was on the same step at the other end, there being about five feet between them, and her profile being clearly in view. For no particular reason he began to stare at her, at the same time concentrating all his attention upon the features. At the expiration of about twenty minutes, he turned his eyes towards the bay simply to relieve them, when he saw before him the image of the girl very distinctly, and also in like manner all the objects that had been within the range of his vision. The image began almost at once to fade, but he found that by fixing his whole attention upon it he could retain it. To this power I particularly draw attention. He next looked over her head towards a wood of Southern pine-trees, and again saw the image. He had repeated this experiment four or five times when the girl turned her head towards him, and asked why he was staring at her so. Dr. L. described what he had seen, when to his surprise she laughed and told him he was only a beginner, and that he ought to be able to obtain in twenty seconds what had taken as many minutes. She then led him on the verandah to a point where the moon shone brightly, and asked the naval officer to take note of the time occupied in the experiments. She told Dr. L. to keep everything but herself out of mind, to look her full in the face, and then to run his eyes up and down her figure. In a few seconds she called 'Time!' and told him to look towards Chesapeake Bay, directing him to regard the image as attentively as he had regarded her previously. He then saw the image very distinctly. The time was twenty-two seconds. In the course of the same evening many more experiments were made. In reply to her father and Dr. L., she said that she had discovered that she possessed this power through a schoolfellow two years before, who possessed the same faculty of voluntarily recalling spectral images. Dr. L. asked her whether this power would last any considerable length of time. She said she could only answer for two years from her own experience, upon which the naval officer spoke up, and said that he could answer for nearly fifty years, having exercised it himself since he was fourteen or fifteen years of age.

"Here, then, were four instances—Dr. L., the naval officer, the young lady, and her schoolfellow — who could, by intense mental attention, recall figures which they had once succeeded in fixing on the mental tablet. I may say that Dr. L. never sees faces other than those which he has known and regarded attentively. Is there conclusive evidence that Dr. L.'s 'faces' involve the retina? One important test which was tried in his case, namely, whether the spectral figures moved with the movements of the eyes, yields an affirmative reply. If Dr. L. immediately after receiving the impression of a face brings up the image on the very spot, it will appear at nearly the same distance as the reality, and it will follow the motion of his eyes. This happened a short time ago at Professor B——'s house at Hanwell, where Dr. L. took (in photographic language) Dr., Mrs., and Miss X—— together, and each separately. At his own house in Norwood, at the present time, Dr. L. sees them as if at a great distance, although perfectly distinct."

Dr. Tuke himself suggests that when a person never sees "a real good object through a *good* image," but fancies he has seen the object more or less through an indistinct image or spectre (a feature in Dr. L.'s case), there may be forthcoming a very simple explanation. It may be that when an object has been really seen —that is, depicted on the retina—and is resuscitated, the spectre or revived image really returns to the nervous network of the eye. When, contrariwise, the illusion or image is that of a purely fanciful picture, born of the brain itself, then we may suppose the brain itself, and not the eye, is the seat of the illusion. This explanation of Dr. Tuke's is, to my mind, one of the most ingenious and philosophical thoughts contained in his admirable paper. It seems to be a most natural theory

to suggest that in their reproduction images, or conceptions, should traverse closely the original pathway by which they were brought to the brain, or should, on the other hand, localize themselves in their original habitat —the brain itself.

In concluding his study of ghost-seeing and illusions, Dr. Tuke tells us that pressure on the side of the eye-ball, so as to throw the eye out of focus as it were, never doubles an object unless it is an actual object external to the eye, and therefore to the person who sees it. The same thing occurs when an object is regarded through a multiplying lens: if real, it is doubled; if an illusion and a coinage of the brain, it is not doubled. In the second place, in the case of a luminous object, we know that its after-image is assuredly existent on the retina, and this image obscures or covers real objects, while it moves with the motions of the eye, and is projected when the person looks on a dark ground. So that if we learn from a person that his illusions, or "ghosts," behave in precisely a similar way to after-images, we may conclude that the illusions really involve the retina of the eye, and *vice versâ*. In the latter case, the illusions are probably existent in the brain alone, and do not extend to the eye. A fact proving this conclusion is found in the occurrence of such illusions of sight when the optic nerves, or those of sight, have become wasted and useless.

Such are the principal conclusions given in Dr. Tuke's paper. His contribution to the literature of illusions is not the less welcome to the public because it tends to depose and destroy superstitious fancies, and to place hitherto mysterious and occult phenomena of mind within the grasp of scientific investigation.

BREAKING IT GENTLY.—Mr. Mullin: "Oi t'ought oi'd shtop in t' say yure huchban' has shtopped shmokin', Missus McCann." Mrs. McCann: "Saints be praised! It's sivinty-five cints a mont' he'll be savin'." Mr. Mullin: "Oi'm layin' bets he won't. He wor lightin' his pipe in the powdher house, an' he dropped th' match."

IN PRAISE OF TOBACCO.—From Messrs. Cope, of Lord Nelson-street, Liverpool, we have received a choicely illustrated and elegantly printed *brochure* on tobacco, entitled *The Smoker's Text-book*. This little work teems with good things, both in the way of sayings and drawings, in praise of the "fragrant weed." If all the tobaccos used were as pure and as free from deleterious substances as are those of Messrs. Cope, we should hear less regarding the evil effects of smoking. As we have always maintained in these pages, in moderation, and practised relatively to the individual health, smoking can not only do no harm, but may actually prove an aid to health. Our readers will remember the series of articles on "Smoking and the Eyesight," and on "Tobacco and Cancer," in which we dealt with and disposed of two unmeaning and frivolous attempts to scare those who love a pipe or cigar. Medical science, judging by the number of doctors who smoke, heartily approves of the luxury of tobacco wisely used; and Messrs. Cope may rest assured that their "Mixture" becomes a household word wherever it has been once introduced.

CHEMICAL ANALYSIS.—DR. DRINKWATER, Lecturer on Chemistry in the Edinburgh Medical School, undertakes the Analysis of Water, Foods, Wall-Papers, and of all other products and articles connected with Household Health and Commercial Interests. Terms on application to Dr. Drinkwater, Chemical Laboratory, 41, Chambers-street, Edinburgh.

Personal Health

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With health all taste of pleasure flies."—*Gay.*

THE VALUE OF INHALATIONS IN THE TREATMENT OF LUNG DISEASE.

IN the Section of Medicine, at the annual meeting of the British Medical Association, held in Glasgow, August last, Dr. C. Theodore Williams read a paper with the above title. The methods of inhalation he classifies as follows:—

1st. Inhalation of gases, such as oxygen, nitrous oxide, atmospheric air (condensed or rarefied), or vapours of certain medicines volatile at low temperatures, as ether, chloroform, nitrate of amyl, and iodide of ethyl.

2nd. Moist, warm inhalations.

3rd. Dry, fuming inhalations.

4th. Atomized sprays.

5th. Respirators containing medicinal agents, by which the air is impregnated previous to respiration.

As to the first class, no doubt can be entertained of its efficiency, and in the case of such gases as nitrous oxide, and such vapours as chloroform and ether, we carry inhalation to great perfection, for we produce the complete physiological effect of the drug; and of other medicinal agents, such as the antiseptics, could be pushed to the same degree and the patient brought thoroughly under their influence, it is probable that our results would be more successful. It would appear, however, that to produce this effect gases or vapours without admixture of watery fluids must be used.

In the second class—moist, warm inhalations—steam or warm, watery vapour is the medium of conveying medicated agents to the lung passages. The simplest form of inhaler for this is a gallipot, or else a wide-mouthed pint jug, filled with boiling water, into which the medicament is thrown, the patient taking deep inspirations, and conducting the vapour to his mouth by arranging a napkin in the shape of a funnel.

Nevertheless, if moisture is to be the medium for introducing medicinal agents into the air-passages, warm moisture will be more grateful than cold; but the amount of the medicinal agent which reaches the air-passages under these circumstances is, according to Dr. Hassall, very minute, and in many cases the greater proportion remains behind in the inhaler. Some medicines, such as the compound tincture of benzoin, are not volatilized at the boiling point of water, and even carbolic acid is only so to a limited extent.

The dry, fuming inhalations are vapours produced by the burning of certain powders, such as nitre-papers, or by heating substances like iodine on a hot plate, or the smoking of various cigarettes. This is doubtless an effective method of lung medication, as volatilization is certain; the patients seem to inspire such vapours with comparative ease, being doubtless assisted by the process of diffusion of gases.

The fourth class—the hand-ball sprays—are used at a low temperature, and are by no means free from risk, giving rise to occasional hæmoptysis. As a rule, however, they do not penetrate beyond the larynx and larger bronchi, and generally condense into liquid on the fauces and pharynx. The use of the perchloride of iron spray in hæmoptysis is one of the few instances in which cold sprays have proved effective in pulmonary complaints; but it has often occurred that a cocaine spray to, say,

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A FATAL MISTAKE IN AMERICA.

THE *Cleveland* (Ohio) *Press* of February 23rd, 1883, published an account of a fatal surgical operation which caused a great commotion among medical men throughout the whole country, Dr. Thayer, the most eminent surgeon in Cleveland, pronouncing it scandalous. It appears that a Mrs. King had been suffering for many years from some disease of the stomach, which had resisted the treatment of all the physicians in attendance. The disease commenced with a slight derangement of the digestion, with a poor appetite, followed by a peculiar distress in the stomach, a feeling that has been described as a faint, "all gone" sensation, a sticky slime collecting about the teeth, causing a disagreeable taste. This sensation was not removed by food, but, on the contrary, it was increased. After a while the hands and feet became cold and sticky—a cold perspiration. There was a constant tired and languid feeling. Then followed a dreadful nervousness, with gloomy forebodings. Finally, the patient was unable to retain any food whatever, and there was constant pain in the abdomen. All prescribed remedies failing to give relief, a consultation was held, when it was decided that the patient had a cancer in the stomach, and in order to save her life an operation was justifiable. Accordingly, on the 22nd of February, 1883, the operation was performed by Dr. Vance, in the presence of Dr. Tuckerman, Dr. Perrier, Dr. Arms, Dr. Gordon, Dr. Capner, and Dr. Halliwell, of the Police Board. The operation consisted in laying open the cavity of the abdomen, and exposing the stomach and bowels. When this had been done, an examination of the organs was made; but, to the horror and dismay of the doctors, there was no cancer to be found. The patient did not have a cancer. When too late the medical men discovered that they had made a terrible mistake; and they sewed the parts together, and dressed the wound that they had made; but the poor woman sank from exhaustion, and died in a few hours. How sad it must be for the husband of this poor woman to know that his wife died from the effects of a surgical operation that ought never to have been performed. If this woman had taken the proper remedy for Dyspepsia and Nervous Prostration—for this is what the disease really was—she would have been living to-day. Mother Seigel's Curative Syrup, a remedy made expressly for dyspepsia or indigestion, has restored many such cases to perfect health after all other kinds of treatment have failed. The evidence of its efficacy in curing this class of cases is too voluminous to be all published here; but those who read the published evidence in favour of this remedy for dyspepsia do not question its convincing nature. The article has an extensive sale.

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ten per cent. strength, administered sufficiently well to insure reaching the smaller bronchi, should do much to allay the spasm of bronchial asthma. It is of great value in throat and laryngeal affections, though not so effectual as the application to the same parts of a cocaine solution of equal strength with a curved brush.

The fifth class is that of antiseptic respirators containing a few drops of liquid carbolic acid, creosote, thymol, terebene, eucalyptol, or other disinfectant on tow, cotton-wool, or sponge, inserted between two layers of wire gauze or perforated metal plate, and fitting either over the mouth or over the nose and mouth.

The patients are recommended to wear these respirators for half an hour at a time, and, if possible, to sleep in them. The simplest form is Yeo's, which has the advantage of allowing the air free access not only to the nose and mouth, but also to the skin of the parts enclosed.

The use of vapours has proved very useful in the hands of Dr. Williams for the reason that they consist of elements which the lungs are well adapted to absorb, and when absorbed they pass rapidly into circulation, reaching the brain and nervous system. As regards the use of dry, fuming inhalations, Dr. Williams has now almost entirely given up their use; and for the stramonium cigarettes, &c., he now substitutes stramonium and belladonna in tincture, or extract in the ordinary doses as medicine, and claims that he speedily obtains the desired result, and believes that this form of medication is preferable to inhalation.

The second group—that of moist, warm inhalations—has not, on the whole, proved successful in his hands. In acute bronchitis, in laryngitis and croup he has found the inhalations of steam beneficial; but in the diseases affecting the parenchyma of the lungs, pneumonia, phthisis, and also capillary bronchitis, they have proved quite useless. Even an acute and chronic bronchitis, where the use of warm medicated vapours seem most indicated to promote epithelial changes and desquamation, even here, he states, he has found the exhibition of expectorants through the stomach far more effective, for the reason that the air-passages are not adapted to receive and absorb large quantities of water, even when part of it reaches them in the form of a vapour. And further, in weak patients especially, deep inspiratory efforts are impossible. Dr. Williams concludes his paper with the following practical conclusions:—

1. That the success of inhalations as a mode of medication depends principally on the easy convertibility into gas or vapour of such substances as are clearly desirable for the purpose.

2. That, consequently, bodies which are volatilized at ordinary temperatures are more readily absorbed by the lungs than bodies which have to undergo combustion before conversion into gases.

3. That all moist inhalations where steam, watery vapour, or spray is the vehicle of medication are but slowly absorbed by the lungs, and enter the circulation in small quantities, and in some cases not at all, the slow rate of pulmonary absorption contrasting strongly with the rapidity of gastric absorption of the same medicines when swallowed, as proved by their detection in the urine.

4. That medicinal inhalations are more useful in diseased conditions of the pharynx, larynx, and larger bronchi than in those of the alveoli and lung parenchyma.

5. That in pulmonary disease the antiseptic respirators, while they lessen cough and reduce expectoration, exercise no lasting remedial influence on the diseased conditions of the lungs, and often seriously interfere with the freedom of respiratory effort, which is so desirable in the treatment of such affections.

ABOUT THE BATH.

IV.

Those who have not visited Rome can have no conception of the grandeur of the baths the ancients built. Those erected by Agrippa and other emperors were of extreme dimensions and magnificence. It is said that the baths of Caracalla were nearly a mile in circumference, but that those of Diocletian were larger still. Forty thousand Christians were employed to build them, and sixteen hundred bathers could be accommodated at once. The latter bath covered an area of 150,000 square yards, and 32,000 people could bathe in them at one time. They corresponded in a measure to the clubs of modern times, and thither resorted the people to discourse on politics and the problems which occupied the mind of philosophers and the gossip which entertained the crowd. These ancient baths are now prisons, churches, studios, and the like. The Church of St. Maria, which Michael Angelo built, is shaped out of a hot-air chamber. One writer says, "One still sees the massive columns of Egyptian granite; from the vaulted roof still hang the metal rings from which were suspended the lamps which shone upon the Romans in those days as they enjoyed their bath. Where was formerly the swimming-bath (200 feet long by 100 feet wide) is now the cloister of the Convent of the Certosa. In the earlier days admission to the baths cost the enormous sum of less than a farthing of our money, but to the baths of the emperors, with their gymnasia, conversation-rooms, theatricals, races, &c., admittance was free." As already mentioned, the baths at Bath were built by the Romans, and so was that also which existed in Strand-lane until within a short time.

Bathing is by no means such a common custom with the crowd as may, perhaps, popularly be supposed, and many is the humorous illustration which often strikes one unawares to bring home the truth of what we say. The oft-heard testimonial to a firm of soap manufacturers is, perhaps, not *inapropos* here: "Two years ago I used your soap; since then I have used no other." Another amusing example is the following:—"A gentleman travelling in the far west passed the night at a way-side tavern; he found in the room no arrangement for washing, and on applying to the landlord he was told, 'Folks generally wash outside the door if they want to wash at all.' The traveller ordered a basin and water to be taken outside the door, and while performing his ablutions several of the inhabitants hung round, watching with interest what seemed to them to be a most novel proceeding."

Unfortunately there is a tendency in human nature to carry things to extremes. Some people bathe too much, other people bathe little or not at all. Some are using all manner of medicated and highly scented soaps, while others consider they have little or no occasion for any. Competition in soaps, we may say, has become so keen that the struggle is to supply the best scented soap for the least money. A cheap soap is the costliest of all in the end. In happy contrast with the ordinary saponaceous products, which are to be reprehended, is "Vinolia" Soap, already mentioned, but worthy of repeated notice, as it differs from other soaps in containing no free alkali whatever, but a slight excess of plastic emollient cream. In using this the oily film upon the

skin is not removed to such an extent as to injure and destroy the epithelial cells.

In Bradford, Liverpool, Birmingham, Glasgow, and in London, there are public baths, where thousands upon thousands of bathers resort in the course of a year. Edinburgh, has also succeeded of late in establishing public baths. Mr. A. Carnegie did the same for Dunfermline; and public baths were opened in Perth only the other day. The philanthropists would do well to direct attention to the need of more baths throughout Great Britain. Bacon says that cleanliness of body was ever esteemed to proceed from a due reverence of God. While the truth of this assertion has been questioned by many, it is certain that uncleanliness is the not unusual accompaniment of a debased condition. If, as we have been told, our bodies are temples, what grander work can there be than that which promotes health and beauty, and so improves the man and disposition. The gods never made anything better than beauty.

EDUCATION AND LAW.

EDUCATION and law are two of the greatest forces that have established and extended civilization. War, with all its conquests, has left to these forces the guardianship of the higher development and progress of humanity. Law with the civil and military power behind it, may be the more powerful, immediately, but that exerted by education is the more enduring, and gives strength and direction not only to law, but to every power established for its execution. In every realm of human action these forces go hand in hand, and that dream of an ideal civilization will never be realized in which education and law will have no offices to fulfil.

In the effective development of sanitary science and the enforcement of its principles that its lessons may be heeded and its teachings obeyed, education and law are the prime agencies. The State has the right to enforce such regulations and establish such provisions as will best secure the people in heathful homes. The law-making power of a State has the right to regulate the practice of medicine, establish a system of examination and licensing, create medical boards and sanitary inspectors, and provide whatever is necessary to promote health. In many of the States, laws creating and governing health departments are very perfect, while in others they are very defective. It is the first duty of a State to protect the citizens in this regard, but, while its statutes go far to secure better conditions of health, they stop short of teaching sanitary science, or imparting knowledge of health laws.

Education in this, as in all other matters, is the most potent force that can be employed. Its power is one of those forces which silently change human nature and establish new habits and customs. All that is needed is the proper education properly directed. Humanity is ever ready to learn, and nothing interests man more than subjects relating to his health. On this one disposition of man, thousands of quacks live and make fortunes. This is not because the people choose the spurious, but because the quacks and patent medicine men are more active in placing their nostrums before the people. The genuine is presumed to stand upon its merits, but the counterfeit is pushed forward by all possible means, and its pretended virtues are spread broadcast throughout the country. If such activity were given proper education and healthful instruction, and so tirelessly disseminated, a change would so mark the sanitary condition of homes throughout the country. One of the first lessons to be taught should be how to keep a home clean and the importance of doing it. The whole of sanitary science rests on common sense. Comparatively, all people have common sense. What they need is to be taught how to use it. Where sanitation requires specialists, as the plumber, engineer, architect, &c., a reliance on them should be taught, and the importance of the selection of a competent specialist should be impressed.

Boards of health are doing much in this direction, and in most of our common schools hygiene is taught. But it is too commonly taught by machine methods, and the importance of it is not impressed. Hygienic rules are learned, but they are not observed, simply because their great importance is not at all impressed. Here is where our education in this regard fails, and here is the place where a new spirit should be aroused in all our educators. It is this kind of education that will secure the results sought, and awaken an interest that will be intelligently active.—*Sanitary News.*

MALARIA. — Dr. Henry B. Baker, the well-known sanitarian, contributed a paper at the last meeting of the American Medical Association, on "Malaria, and the Causation of Periodic Fever." After an able discussion of the subject, he sums up as follows: "So far as evidence is yet presented, it seems to be proved, then, that (1) intermittent fever is proportional, directly or inversely, to the average daily range of atmospheric temperature; (2) the controlling cause of intermittent fever is exposure to insidious changes, or changes to which one is unaccustomed, in the atmospheric temperature; (3) in the mechanism of the causation of intermittent fever, the chief factor is the delay in the reaction from exposure to cool air (this delay, extending to a time when greater heat-loss should occur, results in the abnormal accumulation of heat in the interior of the body, and in disturbed nervous action,—the chill) and the final reaction is excessive because of the accumulation of heat, and sometimes because it occurs at the warmest part of all the day; (4) the fever is the excessive reaction from the insidious influence of the exposure to cool air, and it is periodical because of the periodicity of nervous action, and because the exposure and the consequent chill are periodical, owing to the nightly absence of warmth from the sun; (5) residence in valleys, or on low lands through which or upon which cold air flows at night, and thus causes insidious changes in the atmospheric temperature, favours intermittent fever; (6) in our climate, those measures, such as drainage, which enable the soil to retain warmth during the night, and thus reduce the daily range of temperature immediately over such soil, tend to decrease intermittent fever among residents thereon; (7) in the cure and prophylaxis of intermittent fever, those remedies are useful which lessen torpidity and tend to increase the power of the body to react promptly to insidious changes in atmospheric temperature; (8) the slowness of the pulse, and other indications of torpidity, associated with retention of bile or with certain disturbances of the functions of the liver, are well known; but, so far as known to the writer, these conditions have not heretofore been considered as causative of the fever in the manner herein suggested.

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The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

CHILDREN IN SUMMER.

Of all the vexatious problems that ever present themselves for settlement within the sacred precincts of home, none are at times more perplexing and distressing than that of how to feed the baby. The following letter from a Trained Nurse appeared in a contemporary; and as nurses are ever with the invalids, their observations are ofttimes deserving of more attention than they receive. We reproduce the communication *verbatim et literatim.*

"I notice that in your recent article on 'Children in Summer' you recommend the giving of peptonized milk to infants recovering from summer diarrhœa, and I want you to let me say, for the benefit of your readers, of how great advantage I have found this plan of giving milk already partially digested to babies deprived of their natural nourishment, of whom it has been my lot to nurse a large number, both in sickness and in health. On account of the amount of casein or cheesy matter present, cow's milk has to be diluted with equal parts of water for the little infant of a few weeks; but even so diluted, the addition of acid shows that the milk is thrown into heavy curds, which are tough and indigestible, instead of forming fine feathery flakes, as is the case with human milk. Now, the zymine peptonizing powders, which are made from the digestive ferments of certain animals, act upon the milk so as to partially digest it, and cause it to flake in the same way as mother's milk, while not interfering with the flavour, but leaving it sweet and palatable. As you have not given the recipe for preparing milk in this way, permit me to do so:—

"Into a clean jar or bottle pour a pint of fresh milk, half-pint of cold water, and one of Fairchild's Peptonizing Powders. Set in water as hot as the hand can bear, and let it stand for twenty minutes, shaking occasionally. It may now be used. When not for immediate use, it should be boiled for two or three minutes, or else kept on ice, to prevent the milk from becoming bitter. Keep in a cool place. (Boiling stops peptonization permanently, cold simply suspends it).

"Professor Gamgee, M.D., F.R.S., has said: 'Peptonized milk can almost invariably be supported by the stomach, though it reject all other aliment'; and my experience has fully borne out this statement, both in the case of feeble infants and of older children suffering from wasting diseases. For children of a year and upwards I have found the following recipe for beef-tea of the greatest possible service. The quantity given varies from a teaspoonful at a time, according to the age and condition of the little one:—

"Add a quarter of a pound of 'very finely minced' lean beef to half-a-pint of cold water. Cook over a gentle fire, stirring till it boils well. Add half-a-pint more of cold water, and the cup-like depression in the cork six times full of Zymine, and four times full of bicarbonate of soda. Set in a warm place (100 degs. Fahr.) for three hours, shaking occasionally, then boil quickly for two or three minutes. It should be strained or clarified with white of an egg. Season to suit the taste, adding condiments as permissible.

"I hope you will not think it presumptuous of me to write to you on this matter, but I think my experience may be of some use to others. I enclose my name and address, and thanking you for many hints I have got from your paper,—I am, yours truly, "A Trained Nurse."

FRENCH VITAL STATISTICS.

It has been said that the happiest nation is that in which the proportion of men and women is most nearly equal, in which the number of illegitimate births is least, which contains the greatest number of healthy adults, in which the average life is longest, and in which the proportion of people beyond sixty years of age is the highest. According to the Paris *Temps*, France is the country in which all these conditions are most fully met. While in Great Britain there are 750,000, and in Germany 1,000,000 more women than men, in France the excess is only 92,000. Between the years 1825 and 1867 the illegitimate births varied in the different countries of the Continent from 8·2 to 25 per cent., but in France they were only 7·2 per cent. The mortality in England is 31, in Germany 38, and in France 23·8. The proportion of inhabitants between fifteen and sixty years of age is greater in France than in any other country, and the same favourable showing is made for the average duration of life and for the number of vigorous old people.

Investigations by M. Chervin, published in a recent number of the *Gazette Hebdomedaire des Sciences Medicales de Bordeaux*, show that, of 10,425,321 families in France, 2,073,205, or twenty per cent., are childless; 2,546,611, or twenty-four per cent., have but one child each; 2,265,317, or twenty-two per cent., have two children each; 1,512,054, or fifteen per cent., have three children each; 936,853, or nine per cent., have four children each; 549,633, or five per cent., have five children each; 313,400, or three per cent., have six children each; and 232,188, or two per cent., have seven children each.

Excluding the 2,073,205 families that have no children, there are only 8,352,116 that contribute to the increase of the population. This gives an average of 259 children for every 100 families, but if those having no children are included the average will be but 207 for each 100 families, or a little more than two children in each household. Those having no children, the families being unrepresented, drop entirely out of existence in time. Of those having only one child there is only one representative for father and mother, and such families, unless by alliances with others, would disappear.

Families having two children would barely be represented if sickness, wars, epidemics, and other causes did not reduce the number thus left. Only 3,544,188 families, representing thirty-four per cent., contribute to maintain the population; while 6,881,133, or sixty-six per cent., contribute nothing. This small increase explains the almost imperceptible increase of the population in France.

The departments having the least increase are those in the north-east, the north-west, the south-east, and the south-west. In these the average number of children for 100 families is from 200 to 228.

The departments having the greatest increase are Brittany and Poitou on one side, and Savoy, Auvergne, &c. In the north, Flanders and Loire scattered, give an average of 285 to 340 children in the household.

The *Journal Officiel*, recently issued, reports the vital statistics for the last year as follows: 278,056 marriages, 899,333 births, and 842,797 deaths, showing an increase in the population of 56,536 individuals, or 3,920 more than during the preceding year. In spite of the increase, however slight, it is noteworthy that there is a steady

decrease (12,808 annually) in the births during the last seven years. Of the total number of births registered during the year, 73,854 were illegitimate, giving a proportion of over eight per cent. of the whole. In the department of the Seine (Paris) the percentage reached the high figure of twenty-five, while in that of Finisterre it sank to two. The average number of deaths per 1,000 for the year was 22.

The total number of *suicides* was 7,572. Of these, one-fifth were in and around Paris. Poverty appears to have caused only 483 suicides throughout France, and this number includes a morbid fear of impending misery without actual privation. To mental aberration 1,975 cases were traced, and 1,228 to physical suffering. Among the moral causes domestic trouble comes first, and alcoholism next. Disappointed love and jealousy caused respectively 200 and 27 cases; dislike of military service, 25. The suicidal month of the year is July, and it is noteworthy that since the establishment of the *fête* on the 14th, suicides have increased.

OLD LADY (in drug store): "Can I take this medicine, young fellow, with impunity?" Boy (busy selling stamps): "Yes, you can take it with impunity, or with a little milk and lime water."

PUMICE STONE.—This is a volcanic product, and is obtained principally from Campa Bianca, one of the Lipari Islands, which is entirely composed of this substance. It is extensively employed in various branches of the arts, and particularly in the state of powder for polishing the various articles of cut glass; it is extensively used in dressing leather, in grinding and polishing the surface of metallic plates, &c. Pumice stone is ground or crushed under a runner and sifted, and in this state is used for brass and other metal works, and also for japanned, varnished, and painted goods, for which latter purpose it is generally applied on woollen cloths with water. Putty powder is the pulverized oxide of tin, or generally of tin and lead mixed in various proportions. The process of manufacture is alike in all cases—the metal is oxidized in an iron muffle, or a rectangular box, closed on all sides, except a square hole in the front side. The retort is surrounded by fire, and kept at a red heat, so that its contents are partially ignited, and they are continually stirred to expose fresh portions to the heated air; the process is complete when the fluid metal entirely disappears, and the upper part of the oxide then produced sparkles somewhat like particles of incandescent charcoal. The oxide is then removed with ladles, and spread over the bottom of large iron cooling pans and allowed to cool. The lumps of oxide, which are as hard as marble, are then selected from the mass and ground dry under the runner; the putty powder is afterwards carefully sifted through lawn.

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THE WONDERS OF ANIMAL MAGNETISM.

BY GILLES DE LA TOURETTE.

EVEN in the case of the most susceptible individuals rarely does sleep appear when they, for the first time, undergo the hypnotizing manipulations, however skilled the operator may be. There is needed a complete surrender of one's will, and absence of all mental preoccupation, and on the part of the company present absolute silence. In most cases exhibitions of hypnotization develop, at first, only vague phenomena not easily classified, foreshadowings, so to speak, of what will follow later.

In order to bring what we have to say on the vast subject of hypnotism within the limits assigned for this article, we will not treat here at all of these phenomena of imperfect hypnotization, but will describe only the effects produced upon a subject that has already often been hypnotized, who quickly falls asleep, and who passes through the different stages of hypnosis at the will of the operator. These phenomena belong especially to what is called by M. Charcot the "greater hypnotism," we shall also have something to say of what he called the "lesser hypnotism."

The phenomena of the hypnotic series have been divided into three typical states, to which Charcot gives the names of *Lethargy*, *Catalepsy*, and *Somnambulism*. These words were in use long before his day, but he has fixed their meaning as technical terms. The chronological development of these three states differs according to individuals; nevertheless, when a person undergoes again and again the same process of hypnotization, the catalepsy generally comes first. Suppose, then, that we have before us an individual who has often been hypnotized. We hold before his eyes, at the distance of a few centimetres, some shining object, for example, the bulb of a mercury thermometer, and he is told to fix his gaze upon it steadily. On withdrawing the object after a few seconds, or after a few minutes—it all depends on the individual's susceptibility—we find him motionless, his eyes wide open and still fixed on the place where the object was held, and indifferent, at least apparently so, to everything about him. Raise one of his arms, and it remains in whatever posture you give it; the joints are exceedingly supple, presenting the *flexibilitas cerea* so favourable to the production of the most varied artistic poses. Meanwhile the pulse grows less frequent, and the respiration becomes superficial; further, the subject is completely insensible. He may be pricked with a pin, or a live coal may touch his skin, but he has no consciousness of it; and the same is to be said of the other hypnotic states. Finally, he readily adopts suggestions, as we shall see later. The subject can be kept in this state for some time, a quarter of an hour, half an hour, or longer; but of all the hypnotic states the catalepsy

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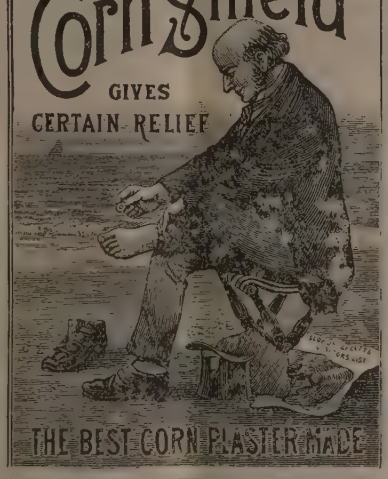

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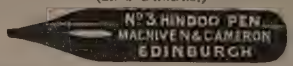

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is the one that ought not to be prolonged, for it produces considerable fatigue; the countenance becomes flushed, tears flow from the eyes on account of the fixed position of the eyelids.

To awaken the subject is easy in the catalepsy as in the other states. This is done by blowing gently on the eyes of the subject. He comes out of his sleep somewhat dazed, but without any feeling of suffering, nor has he any recollection whatever of what occurred during the hypnosis.

To produce the lethargy, it suffices either to keep the shining object a little longer before the eyes of the subject, or to close the cataleptic's eyelids with the fingers. In the former case, the eyelids are soon seen to grow heavy, and to fall little by little till they are fully closed. Commonly the subject passes into the state of sleep, while performing the movements of deglutition, accompanied by a slight noise in the pharynx. He is then completely helpless, in the profoundest sleep, and were he standing when the lethargy came on he would fall to the ground like an inert mass.

A veritable corpse he is now, but in appearance only, for the vegetative functions go on as before. He is insensible to all excitations, however powerful, however painful. His intelligence, too, is completely in obeyance; he makes no response to any question; he is sunk in the profoundest coma. While this state continues—and in the preceding state as well—the subject is absolutely at the mercy of the magnetizer, who can make him do whatever he will.

Of all the hypnotic states the lethargy is the one in which the subject may continue longest with impunity. To prevent a threatened attack of hysteria we often allow women to remain in the lethargic state upward of twelve hours; in that case the awakening is a little more difficult to bring about than usual. But if left to take its course, the lethargy, as well as the catalepsy, does not continue indefinitely, for the awakening comes after a period that varies in length up to twenty hours; but the subject should never be left unattended, for fear of accidents.

The lethargic subject presents one highly important physical phenomenon, first studied by M. Charcot; a knowledge of this is necessary, especially in order to detect simulation. When we press on a muscle, it immediately contracts, thereby producing the movement special to it. Pressure on the biceps brachialis, for instance, causes flexure of the forearm upon the upper arm. So, too, if we press upon a superficial nerve we produce a corresponding contraction in the muscle to which it belongs. The contraction is very strong; the muscles are rigid, tense; they would break rather than give way. Nevertheless, this contraction readily disappears without leaving a trace of its presence, if we act gently on the muscles antagonistic to those that are contracted—for instance, on the extensor muscles of the fingers when the flexor muscles are in contraction. These phenomena of neuro-muscular super-excitation are, we repeat, of the highest importance for the diagnosis of the hypnotic state; they are comparable to the "diathesis of contraction"—the special faculty possessed by the muscles of performing a determinate action under the influence of the slightest excitation, or even spontaneously—which, as M. Charcot has proved, is one of the characters of hysteria. Here is one of the points of contact between the two neuroses, the hysterical and the hypnotic.

The somnambulic state is more difficult to produce in the first instance than either of the others. It is most commonly brought about by transforming one of the other states. In that case we have simply to practice a slight friction on the top of the head, either with the palm of the hand or with the tips of the fingers. Needless to say, this "reflex action of the vertex" has as yet found no explication in the data of physiology; it is simply a clinical fact, a fact of observation.

If, for instance, you rub gently the vertex (or top of the head) of a lethargic, you immediately notice a change. The patient usually utters a low sigh, that being, so to speak, the token of his return to the outer life, if not of his regaining full possession of himself; for in the majority of cases his brain becomes like a tablet of soft wax on which is to be impressed instantaneously every suggestion that comes from the operator.

Before we study these "suggestions," be it remarked that in the somnambulic subject the neuro-muscular super-excitability still continues, but it is transformed.

It is no longer strong pressures, or malaxation of muscles, nor compression of nerves that call it into play; on the contrary, superficial, cutaneous excitation seems now to be the most powerful in determining contraction in the subjacent muscles. By merely grazing the skin, or displacing the surrounding air by waving the hand over a muscle, contraction is produced. This contraction is made to cease just as in the case of the lethargic contraction, by acting gently upon the antagonist muscles.

But in the somnambulist all the sensations, all the senses seem to be exalted to the highest degree, though in the latent state. Let us explain. There are two kinds of somnambulists—those that are quiet and those that are excited: on the one hand, those whose eyes, while they are in the somnambulic state, are shut; on the other, those whose eyes are open. It follows that the somnambulist whose eyes remain open becomes, according to the mental state proper to him, the subject of a host of sensorial illusions produced by the sight of the different objects around him; while the other, whose eyes are shut, remains calm and motionless on the spot where the somnambulism came upon him.

Both, however, present one singular mental peculiarity, being, with few exceptions, in a very high degree "suggestible"—that is to say, their brain lends itself with a complacence that is astonishing to the carrying out of all the orders, all the suggestions that come from the operator.

The study of these suggestions is of the highest importance in considering the subject of hypnotism; it is the one phase that has been most thoroughly discussed and most profoundly analyzed, hence we must here enter on some details.

In ordinary life we see individuals who show a surprising readiness to adopt the opinions, the ways of thinking of certain other persons; the latter thus, so to speak, become the masters of their personality. In the somnambulist this lack of brain resistance, this mental passivity becomes enormously exaggerated; his brain becomes, as it were, a plastic mass, which the one who has put him to sleep molds as he pleases. We say "the one who has put him to sleep," for it is a fact long since demonstrated, that the somnambulist obeys only the person who has put him in the somnambulic state, and who thereby has taken possession of his ego; he is perfectly insensible to all injunctions coming from a third person, but his will is absolutely subject to that of his hypnotizer.

Lady (to drunken beggar): "Are you not ashamed to beg?" Drunken Beggar: "Yes, ma'am, but I'm full; when I'm sober I'm a burglar."

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

Sleep and Dreams.—Does consciousness sleep? Are we, when asleep, always dreaming? Descartes naturally maintained that the mind is always thinking; it was necessary to his theory of personal existence. Locke denied this; men would certainly know it, he said, if they always thought in sleep. It was in vain to object to him that they dream and forget all about it. Leibnitz answered Locke's objection by maintaining that during sleep the mind has always "little perceptions" or "confused sentiments." Kant declared that we never sleep without dreaming, and Sir W. Hamilton held that "in sleep the mind is never either inactive or wholly unconscious." Dr. Gould thinks that the organs of consciousness must sleep, even as the heart and lungs have their rhythmical periods of rest. What is the origin and nature of the dreaming consciousness? Our author thinks that though consciousness obeys the law of rhythm and rest, "since the struggle for existence began, the sleeper has needed a sentinel to stand watch over him, and be on the alert for any one of his thousand enemies." We may be harmed in many ways, by robbers, fire, bad air, heat, cold, &c. We dream of some impending danger, till we become aware that we must awaken ourselves. The need, therefore, of a sentry has evolved the dream. The theory seems to us as original as it is reasonable. Dr. Gould says that a pronounced characteristic of all dreams is their lack of logical correspondence with the laws of the real world—a statement which we feel inclined to dispute, not only from our own experience, but that of many other competent observers. We have many times dreamed we were taking part in a debate or conversation, and have carried on the double argument with entire reasonableness. Like most other observers of dream-phenomena, Dr. Gould considers that the visual sensations largely preponderate; he has never dreamed an odour, or tasted anything sweet or sour in his sleep. His tactile sensations have not been noticeable, and he has no remembrance of music heard in dreamland. Motion and vision are the great factors of our mental life, and it is not surprising that they so largely make up our dreams. "Dream consciousness," concludes the author of this clear and deeply interesting essay, "is consciousness without adventitious aids, physical props, content, and checks—it is consciousness *per se;* it is, in truth, a fluttering memory of a memory of past experiences, its life a mimic play; its phantasmal existence is upborne upon the ghostly wings of past sorrows and joys, and tied to reality by the tenuous thread of a momentarily interrupted sensation. Its master, the body, suddenly tugs at the silken cord, and from freedom it swiftly descends, and slips into the yoke of reality, attentive to the thousand demands of its imperious and all-precious sovereign!"—*British Medical Journal.*

Suffocation of Infants.—All who have had any dealings with coroners' juries know how prone they are to look leniently upon infantile cases in which there is, to say the least, a strong suspicion of contributory negligence. In cases of wasting where there is little doubt that the infant has been insufficiently or improperly fed, the task of proving that there has been any criminal intent is extremely difficult. When, however, the infant, previously in apparently good health, has been found dead in bed, the question of accident or manslaughter is still more difficult, and the parents ordinarily receive the benefit of the doubt. Although in such cases the verdict is usually "Accidentally overlain," frequently the Scotch verdict of "Not proven" would seem to be more appropriate. We recently referred to a case in which the jury returned a verdict of manslaughter against the parents, who had gone to bed in a state of intoxication the night before the child was found dead. The frequency of such cases in Liverpool had called from Mr. Justice Charles the ruling that gross neglect on the part of parents to children, resulting in death, would amount to manslaughter, and this ruling was put before the jury by the coroner. During last week on a single day no less than three cases of deaths of infants from suffocation formed the subject of inquests in Southwark, and the usual verdict was given in each. In one, it appeared that the father, mother, and three children occupied the same bed, but otherwise the published details of all three refer merely to the fact of the death and the post-mortem appearances of suffocation. Perhaps a few verdicts similar to that given at Liverpool may tend to diminish the frequency of these "accidental deaths."—*Lancet.*

Eggs as Food.—As a flesh producer one pound of eggs is equal to one pound of beef. About one-third of the weight of an egg is solid nutriment, which is more than can be said of meat. Eggs, at average prices, are among the cheapest and most nutritious articles of diet. Like milk, an egg is a complete food in itself. It is also easily digested if not damaged in cooking. The celebrated Gounod de Reynière, who consecrated his life to studying the delicacies of the table, affirms, in his *Almanach des Gourmands*, that eggs can be served in more than 600 ways, and a book is published in London, by a French cook, which gives 150 recipes for cooking eggs. The feeble man who has regained strength by boiled eggs for several days, will continue the same comforting food when presented in the form of an omelet, which is one of the principal food preparations made with eggs. The flavour of eggs is much influenced by the nature of the package, for they imbibe foreign odours with the greatest readiness. Eggs brought in the same ship as oranges become impregnated with the scent and flavour of the fruit. If the cases in which they are packed are made of green wood, the eggs will be ruined. The straw in which they are packed should also be perfectly dry, or it will ferment and communicate a fusty smell to the eggs. A raw egg beaten up in a glass of wine is recommended for vocalists for clearing their voice, and in cases of debility; and a spirit of eggs is sold, which is said to be useful in impaired health or the infirmities of age, when vital energy is wanting, and as a specific for soreness of the throat. The white of eggs forms an albuminous solution, useful in diarrhœa of phlegmatic origin. To make this beat up the white of four eggs and add a quart of water slowly, remove the froth formed, add sugar, a little orange-water, and, if necessary a dozen drops of laudanum. This albumenized water is the best antidote to a great number of mineral poisons. The phosphorus in the egg is very good for all those who have brain-work to do. The sulphur in the yolk, as is well-known, acts chemically on silver spoons, turning them black, forming a sulphide of silver that cannot be removed without taking off the surface of silver, thus rapidly wearing the spoon away. Eggs, although of animal origin, are

now allowed to be eaten by Catholics during Lent. But it was not always so: formerly eggs never figured on the tables of the faithful during the fast; but on the Saturday previous to Easter, a great quantity of eggs, held over for six weeks, was blessed and distributed among friends on Easter Sunday. They were dyed yellow, violet, and especially red, hence the origin of the red or Easter eggs. In the reigns of Louis XIV. and XV., after grand mass on Easter Sunday, pyramids of eggs gilded were taken to the cabinet of the king, who distributed them to his courtiers. The custom of Easter eggs is continued to the present time, although modified. Easter eggs are no longer blessed nor gilded to be offered to sovereigns, nor are they held over to Easter eve to receive brilliant colours. A fortnight before Easter, in the coffee-houses and beer-shops of Catholic cities, may be seen huge dishes of eggs of various colours, which are eaten by the customers with their beer. And in families a hard egg is added to the salad, after removing the coloured shell.—*Journal of the Society of Arts.*

Magazines of the Month.—*Harper's Magazine* for June contains an old poem, "Quince," illustrated by Edwin A. Abbey's charming cuts. The artists of *Harper's* in Europe are duly described in an article by Henry James. Dr. J. Jastrow writes sensibly on the "Problems of Psychic Research," and an article on Montreal will be read with interest. *Belgravia* is strong in fiction, and has as its best story a short tale entitled "No Robbery." *The Gentleman's Magazine* contains articles on "Bush Life in New Zealand," and on "The Delights of Hedgerows" (the latter by Dr. A. H. Japp), which are instructive and well written. Mr. Lawrence's paper on "Scenery and Scenic Artists" is also certain to be widely read. *The Season* for June deals with summer toilettes, and gives appropriate illustration to its instructions for ladies' dressmaking. Messrs. Cassell's serials, the *Illustrated History of England*, and *New Popular Educator* are, as usual, of high merit, and of educational value.

A Feathered Sanitary Inspector.—The jackdaw is a compact and lively bird; he aptly proves the truth of the proverb, "Birds of a feather flock together," for he flies about with the rooks and feeds with them. He is a pleasing bird to look at as he steps nimbly about, the grey cowl on the back of his head, and his keen, knowing grey eye distinguish him at once from his larger companions. His note is different, and tells that he is with them, even when flying at a distance: it is a sharp, chattering "Jack! Jack!" Where sheep are pastured suits him best as a hunting ground; he pays them great attention, and performs a useful office for them. I have seen rooks do the same service occasionally, but the jackdaw makes it his business to look after the comfort and welfare of the flock. I have often lingered to watch his proceedings; it is most amusing to see the busy, methodical way in which he sets to work to rid an animal of its insect tormentors. All over its back and sides he hops and clings, the sheep standing quiet all the time and knowing perfectly well that what the bird is doing is for its benefit. The animal only stirs when the other sheep have moved on, and then it and the jackdaw go together. The bird finishes off the top part of his woolly courser with the head, first one ear is examined, then the other; even the eyelids are investigated. That being done, he devotes himself to the legs and under parts. Having finished this self-imposed task of sanitary inspection, he flies off to find and comfort another suffering member of the flock.

HOW TO PREVENT THE SPREAD OF CONSUMPTION.

Dr. Niven, of Oldham, thus speaks of the prevention of consumption in his recent health-report. He remarks that the two cardinal points to be inculcated are:—(1) The spittle of persons affected with, or suspected to be affected with, consumption should be destroyed—at home by being burned, and in the workshop by being dropped into an open spittoon charged with corrosive sublimate. (2) All milk used for food should be well boiled.

He also repeats practical recommendations made in his report for 1886, viz.:—

"1. Consumptive patients should be as far as possible isolated, just like fever cases.

"2. Kissing and other intimate intercourse with them should be prohibited.

"3. The rooms which they inhabit should be well aired, and what they spit should be destroyed by fire.

"4. A non-consumptive should not sleep with a consumptive person.

"5. When a medical man has diagnosed consumption, the fact should at once be made known to the relations.

"6. All workers in rooms filled with irritating dust or fine particles or fibres should wear respirators, and carry a stock so as to change the respirator when it gets clogged.

"7. The utmost attention should be directed to the draining of damp subsoil, and to the separation of house foundations from damp.

"8. It is of the utmost importance that the rooms be well ventilated, without draught, and that there be no overcrowding.

"9. Every measure taken to improve house sanitation, such as the freer admission of light, draining and paving of back courts, &c., is directed also against consumption.

"10. There is reason to believe that consumption may be got from eating the flesh of animals who have suffered from the disease, and, therefore, a heavy penalty should be inflicted in any case in which such flesh has been sold for food."

Whistling Speech.—At the last meeting of the Berlin Anthropological Society, Lieutenant Quedenfeldt, a German officer who has lived on Gomero Island, one of the Canary group, described a whistling language which is used by the inhabitants. The language does not consist of any arbitrary series of signals or sounds. It is described as ordinary speech translated into articulate whistling, each syllable having its own appropriate tone. The Gomero uses both fingers and lips when whistling, and Lieutenant Quedenfeldt asserts that he can carry on a conversation with a neighbour a mile off, who perfectly understands all he is saying. The practice is confined to Gomero Island, and is quite unknown to the other islands of the archipelago. The adoption of the whistling language is said to be due to the peculiar geographical construction of Gomero Island. It is traversed by numerous gullies and deep ravines, running out in all directions from the central plateau. As they are not bridged, they can only be crossed with great difficulty; hence, a man living within a stone's throw of another in a straight line has often to go many miles when he wishes to see and speak to his neighbour. This, it is conjectured, led to the adoption of whistling as a useful means of communication, which has gradually assumed the proportions of a true substitute for speech.

IMPORTANT ANNOUNCEMENT.

[BONUSES TO SUBSCRIBERS TO "HEALTH."

HEALTH, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the PUBLISHER, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain HEALTH from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we offer the following FREE GIFTS and BONUSES to all who subscribe to HEALTH for one year or longer:—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of HEALTH, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of HEALTH weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of HEALTH so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of HEALTH, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, "Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to HEALTH, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with HEALTH should be addressed directly to the PUBLISHER, 2, Paternoster-square, London, E.C., and *not to the Editor*.

NO CHANGE.—Mrs. Blobson: "Is there any change in your pockets this morning, my dear?" Mr. Blobson: "None at all, my love. They are just as they were yesterday, thank you."

A YOUNG man from the country had applied to his physician for advice. After prescribing the regimen he wished his patient to follow, he added: "And remember, only one cigar after each meal." Some weeks later the young man returned. "Well, my youthful friend," inquired Esculapius, "have you observed my rules?" "Pretty faithfully, doctor. Only that one-cigar-after-each-meal business has bothered me some. You should understand that I had—never smoked."

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GALVANISM *v.* EXTREME NERVOUS DEBILITY.
Littlehampton, May 20th, 1889.
Dear Sir,—In answer to your kind inquiry, I am pleased to state that I am thoroughly cured of my complaint, for which I am very thankful. If you publish this, please omit my full name and address.—Yours truly,
N.B.—Full name and address on application. C. S.
Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.
3, The Grove, Eccles (near Manchester), May 16th, 1889.
Dear Sirs,—I have derived very much benefit from wearing the Galvanic Belt supplied me by your firm in December last, and it has proved far more effectual in my case than all the medicine I have taken. You may make any use you like of this letter, and believe me, yours truly, W. BENNETT.
Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS DEBILITY.
30, Mary-street, Southsea, May 11th, 1889.
Dear Sir,—It is with much pleasure I write to say that since wearing your Galvanic Belt a most remarkable improvement has taken place in my health, and nearly all the old symptoms I was suffering from have vanished, for which I feel very grateful. Many thanks for your kindness in my case, and wishing you every success.—Yours respectfully, C. TINGEY.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* PARALYSIS AND SCIATICA.
40, College-road, Bromley, Kent, May 8th, 1889.
Gentlemen,—I am very pleased to give you a testimonial for your Electric Belt. I bought one of you in January last, when I was suffering from sciatica and slight paralysis, and after wearing it for two weeks I was greatly relieved, and in three months' time I was completely cured.—Yours very truly,
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GALVANISM *v.* LOCAL WEAKNESS.
Cornerville, Buncrana, Co. Donegal, May 1st, 1889.
Gentlemen.—I have very much pleasure in recommending your Galvanic Belt and Chain Battery for the cure of extreme local weakness and debility, and you are at liberty to make use of my name and address.—Yours faithfully, C. H. COCHRANE.
Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.
28, St. John-street, Newport Pagnell, April 29th, 1889.
Dear Sir,—I am pleased to say that to me your invention of the Galvanic Combined Bands is invaluable. Having worn them with so much benefit, I can bear testimony to their comfort and support.—Yours truly,
(Mrs.) A. F. COOCH.
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GALVANISM *v.* RHEUMATISM & NERVOUS DEBILITY.
Erin Manor, Burgess-hill, April 27th, 1889.
Dear Sirs,—I have great pleasure in informing you that the Galvanic Belt I got from you last January for my old gardener has been of the greatest benefit to him; he now sleeps well, his appetite is good, and he has greatly increased in flesh. Under God's blessing your Belt has been the means of restoring this poor man to health, and he is now able to resume his work, even to stooping and digging, neither of which he has been able to do for the last five years.—Yours faithfully,
W. R. E. ALEXANDER, Major-General.
Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS DEBILITY.
3, Baltic-place, St. Luke's, E.C., 8th April, 1889.
Gentlemen,—In reply to your kind inquiries as to the efficacy of your Galvanic Bands, I am pleased to state that your treatment in my case has been entirely successful, and if I may judge by my feelings at the present time it is a permanent cure.—Yours truly, S. WILTSHIRE.
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OWING to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the LETTER-BOX DEPARTMENT of HEALTH, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH. A limited space only, is available for the insertion of replies each week.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

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REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

CORSAIR.—We fail to see that you need be troubled at all about the symptoms you name. You should avoid tampering with drugs. All you require is to live a plain, simple life, and to take plenty of out-door exercise. It is, of course, possible that your hard mental work may affect you in some degree, but you can counteract this by exercise. A cold sponge bath each morning will be likely to benefit you greatly. You will outgrow the symptoms you mention, and they should therefore give you no trouble.

A. FEARNLEY.—When you are troubled with the symptoms named, take fifteen grains citrate of potash in half a tumbler of water. You must avoid all sweets, cheese, pastry, and like indigestible foods, and see that you avoid constipation by the use of the diet and Cascara recommended to "Simplex" in HEALTH, No. 321.

APE.—Your questions are of somewhat unusual nature. Nothing can prevent the action of such organs in the body of a healthy person, nor is there any need for such prevention. Tobacco and bromide of potash (the latter in twenty-grain doses taken in water) are believed to have a depressant effect. No surgeon would undertake the operation you name unless for the cure of disease.

ENQUIRER.—See advice given to "J. Barrow" in last week's number.

OPERATION.—If we understand your inquiry aright, we may say the operation you name can be painlessly performed under the influence of cocaine, which renders the parts insusceptible of feeling. Any good surgeon will be able to give you all information after seeing you. The operation would certainly confine you to bed for a few days.

HOPEFUL.—1. Try applying night and morning to the warts a little aromatic vinegar. If this does not suffice, touch them carefully with a little glacial acetic acid. 2. Apply Vinolia (Roberts & Co., 76, New Bond-street, London, W.) to the part, and wash with Vinolia Soap.

G. O.—Read the pamphlet recommended to "Cordalis" in the present number. The belt you are wearing is an excellent one.

UNDERGRAD.—1. Try the effect of taking a brain-tonic, such as Inman's Hypophosphites (advertised in HEALTH), a teaspoonful in a wineglass of water, after meals, thrice daily. Your vegetarian food must be changed and replaced by a moderate amount of meat. 2. Apply to Roberts & Co., 76, New Bond-street, London, W.

B. D. E.—1. Give a teaspoonful of Inman's Hypophosphites (advertised in our pages) twice or thrice daily, in a wineglass of water, after meals. 2. Simply attention to the general health, and especially avoidance of damp and chills. The use of a Chloride of Ammonium Inhaler (Burroughs, Wellcome & Co.'s) may also be recommended.

BACHELOR.—See and follow advice given to "Bald" in last week's HEALTH. Use soft brushes only. Write again if not cured.

WHITLANDWOOD.—1. Try Professor Loisette's memory-system. 2. Phrenology never was a science, and all its deductions are founded upon false notions of brain-function. Read the article, "The Old Phrenology and the New," in Dr. Andrew Wilson's book, *Studies in Life and Sense*, for an exposition of the fallacies of this pseudo-science.

FAITH.—If you have procured the pamphlet we recommend, why do you not follow out its advice? The diet and other remedies prescribed therein will cure you; but you are simply troubled by a fancied and not a real ailment. The firm you consulted is a quack one.

ARGUS.—Your tobacco-smoking, in our opinion, is at the root of your depression. Give it up altogether, or lessen it greatly, and you will probably find your troubles disappear. In addition, take the tonic above recommended to "B. D. E.," as suitable for your case.

CHARLES H.—1. Mr. Pulvermacher, 194, Regent-street, W., will advise you on the point you name. 2. For a few weeks only.

A. R.—Allow one of the Chlorate of Potash and Cocaine Tabloids (made by Burroughs, Wellcome & Co., and to be had of any druggist) to dissolve in your mouth occasionally, and take, after your meals, a teaspoonful of Syrup of the Hypophosphites (Inman's) in a wineglass of water twice daily.

EXCELSIOR.—Write to Messrs. Pulvermacher direct, and they will inform you.

LAME.—Rub the affected part night and morning with Bow's Liniment, and at bedtime take twenty grains bromide of potash dissolved in a little water.

CORDALIS.—Read the pamphlet, "A Lecture to Young Men" (post free, 5th Edition, from Mr. Renshaw, 356, Strand, London, W.C.), and follow out its instructions as to diet and the use of Cascara, and you will get quite well.

C. E.—Use Friar's Balsam or the compound tincture of benzoin. Put a teaspoonful in a pint of hot water (at 140 degs. Fahr.), and inhale for ten minutes or so, but be careful of cold thereafter. Use an inhaler, such as may be procured of any chemist.

P. GRANT.—Try the effect of the following pill:—Powdered ipecacuanha, half a grain; powdered capsicum, one grain; powdered rhubarb, two grains; extract of gentian, three grains. Six such pills to be made, and one to be taken half an hour before dinner when there is any liver irritation.

MARK F.—Wash the hair once a fortnight or so with Bayley's Spermaceti Soap and tepid water (17, Cockspur-street, London, S.W.).

A. REID.—Give up the tonic for a time, and take twenty or thirty drops of the Cascara Cordial (or two Tabloids) twice daily between your meals. Eat wholemeal bread, stewed fruits, and vegetables, and avoid tea and coffee. In place of tea, morning and night, take Scott's Midlothian Oat Flour.

HERBERT.—Attend to the diet-rules laid down in the pamphlet you have read. You need no special rules for diet. Simply live plainly; avoid constipation, and take plenty of out-door exercise and a cold bath each morning. Don't bathe just before bed.

HOPEFUL W.—1. Purchase a tricycle which is a front or bicycle-steerer. You can see advertisements of many second-hand ones in the *Bazaar and Mart*. 2. Drink Pitkeathly Water regularly, and avoid alcohol.

SCOT.—What you complain of appears to us to be nothing but what is natural under the circumstances you describe. It cannot certainly be what you suggest unless you have suffered from infectious disease previously. In any case, there can be no danger of infection. Use a mild injection of Condy's Fluid and tepid water night and morning if the condition continues.

HAWES INN.—Try hot salt-water baths, and rub the affected parts with St. Jacobs Oil night and morning. Drink Pitkeathly Water with Lithia—to be had of Reid & Donald, Perth, or any druggist—and avoid all alcohol. Write again if not cured.

VENERAL.—[Kindly use another *nom-de-plume* in future].—Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.). By using the diet-remedies and Cascara as therein recommended for constipation you will cure the symptoms of which you complain. Wash the parts with soap and water regularly night and morning as a matter of ordinary cleanliness. If, of course, you subject yourself to excitement of any kind, you need not be surprised at the occurrence of the symptoms you name.

TOM BOWLING.—Yours is a case in which you should see a physician and take his advice. From what you say, it appears you have all the symptoms of goitre.

EGO.—Read the pamphlet recommended to "Cordalis" in the present issue, and follow out the remedies recommended therein for the cure of constipation. Wear a suspensory bandage, and bathe the parts night and morning with cold water. Your constipation is at the root of your troubles.

E. WALLACE.—You need pay no heed to the symptom you name. It will disappear in time. The books you have read, if not quack ones, are certainly quite wrong in their statements.

SCOTIA.—The best remedy is, first of all, a change of air to the seaside; and, secondly, the use of a Chloride of Ammonium Inhaler (Burroughs, Wellcome & Co.'s), which you can procure at any good druggists in your city. Brace up your system also by taking a teaspoonful of Inman's Hypophosphites (Shandwick-place, Edinburgh) in a warm glass of water, twice daily, after your meals.

NEMO.—Read the pamphlet recommended to "Cordalis" above, and note its directions regarding diet, &c. What you name chiefly arises from some error in your food. You must avoid constipation, and drink Pitkeathly Water (advertised in our pages) regularly for a time to correct acidity of your secretions.

OMEGA.—1. No: take the powder in milk. 2. No. 3. Not at all. 4. Yes: in suitable cases.

NOTTING HILL.—Not at all: as the food has all to be digested and added to the blood it is not the "softness" of the food but its chemical qualities which have to be taken into account. The firmness of muscle depends quite as much on exercise as on food.

C. TOLSON.—1. Certainly smoke less; it is probable that your strong tobacco is the cause of your symptoms. 2. For the rest, read the pamphlet recommended to "Cordalis" in the present number. 3. No: it is not too often.

W. A. R.—1. Use the inhaler and tonic recommended to "Scotia" in the present number. 2. Take plenty of open-air exercise (try cycling), and look to the ventilation of your bedroom. The tonic ordered will also aid your cure.

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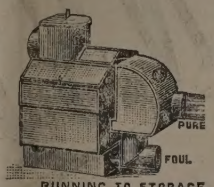

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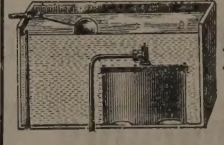

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